

**COMPOSITE ARTICLES REINFORCED WITH**  
**HIGHLY ORIENTED MICROFIBERS**

**Abstract of the Disclosure**

5       A composite formed of a polymer matrix phase having a reinforcement phase  
including polymeric microfibers. The microfibers are preferably formed of a highly  
oriented polymer, having a high modulus value and a large surface area. The large surface  
area can serve to tightly bind the microfibers to the polymer matrix phase. The microfibers  
can be provided as a fully- or partially- microfibrillated film, as a non-woven web of  
entangled microfibers, or as a pulp having free fibers. The microfibers can be embedded  
10   in, or impregnated with, a polymer or polymer precursor. Some composite articles are  
formed from thermoset resins cured about a highly oriented polypropylene microfiber  
reinforcement phase, providing a strong, tough, moisture resistant article. One composite  
includes a matrix and reinforcement formed of the same material type and having  
substantially equal refractive indices, allowing the composite to be optically clear.

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